

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|--|------------------------------|------------------|---------|------------------|
| S1 | 1 | ("6318342").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/31 14:11 |
| S2 | 17 | ("3194162" "3589345" "4502438" "4798188" "5111699" "5127378" "5479902" "6148842" "6155212").PN. OR ("6318342").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 07:11 |
| S3 | 1 | ("4566316").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/31 14:37 |
| S4 | 15 | ("3151258" "3566163" "3614488" "4088015" "4483181").PN. OR ("4566316"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 14:39 |
| S5 | 20 | ("3151258").URPN. | USPAT | OR | ON | 2006/12/31 15:23 |
| S6 | 54 | ("2728868" "2808524" "2963911" "3060333" "3075098" "3104334" "3151258" "3158762" "3158763" "3269175" "3311873" "3320580" "3349259").PN. OR ("3566163"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 15:28 |
| S7 | 14 | ("2773388" "3505862" "4566316" "4602506" "4686861").PN. OR ("4898024"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 15:40 |
| S8 | 21 | ("3939703" "4153019" "4408483" "4491010" "4524625" "4559821" "4566316" "4601197" "4602506").PN. OR ("4969352").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 16:03 |
| S9 | 34 | ("2879450" "4106447" "4138783" "4161665" "4408496" "4463610" "4602506" "4736620" "4823621" "4909071" "4969352" "5101659" "5142914" "5165284" "5180983" "5269178" "5303595" "5315875" "5323643" "5479817").PN. OR ("5672812"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 16:13 |
| S10 | 21 | ("2068744" "4483181" "4570097" "4601196" "4602506" "4660409" "4964294" "4969352" "5142914" "5195365").PN. OR ("5329809"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 16:21 |

EAST Search History

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|-----|------|---|------------------------------|----|----|------------------|
| S11 | 2 | (injector with sleeve with sensor). clm. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 16:21 |
| S12 | 27 | ("4036050" "4232545" "4337648" "4359893" "4429570" "4441021" "4444049" "4452072" "4461170" "4463729" "4493208" "4545238" "4643022" "4648266" "4665740" "4802369" "4825689" "4887574" "4919099" "4987771" "5099683" "5103789" "5194813").PN. OR ("5834629"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 16:24 |
| S13 | 8 | ("3371525" "3874225").PN. OR ("4036050").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 16:38 |
| S14 | 15 | ("2773388" "3505862").PN. OR ("4602506").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:04 |
| S15 | 21 | ("2068744" "4483181" "4570097" "4601196" "4602506" "4660409" "4964294" "4969352" "5142914" "5195365").PN. OR ("5329809"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:14 |
| S16 | 1415 | (sleeve with sensor).clm. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:18 |
| S17 | 9 | (spark with sleeve with sensor).clm. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:18 |
| S18 | 14 | ("2773388" "3505862" "4566316" "4602506" "4686861").PN. OR ("4898024"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:25 |
| S19 | 40 | ("2873341" "3201977" "3365689" "3599479" "3695096" "3724575" "4203318" "4283941" "4326423" "4364280" "4416163" "4453422" "4483181" "4566316" "4646563" "4753109" "4766655" "4775816" "4898024" "4909071" "4969352" "4969353" "5095741" "5142914" "5187985" "5323643" "5419199" "5581019").PN. OR ("5712424"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:33 |

EAST Search History

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|-----|----|---|------------------------------|----|-----|------------------|
| S20 | 1 | ("6318342").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/31 17:33 |
| S21 | 17 | ("3194162" "3589345" "4502438" "4798188" "5111699" "5127378" "5479902" "6148842" "6155212").PN. OR ("6318342").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:34 |
| S22 | 8 | ("4438496" "5671715" "5722373" "6213093" "6253736" "6318342").PN. OR ("6598591"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:49 |
| S23 | 1 | ("5712424").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/31 17:49 |
| S24 | 40 | ("2873341" "3201977" "3365689" "3599479" "3695096" "3724575" "4203318" "4283941" "4326423" "4364280" "4416163" "4453422" "4483181" "4566316" "4646563" "4753109" "4766655" "4775816" "4898024" "4909071" "4969352" "4969353" "5095741" "5142914" "5187985" "5323643" "5419199" "5581019").PN. OR ("5712424"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:50 |

EAST Search History

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|-----|-----|---|------------------------------|----|----|------------------|
| S25 | 72 | (US-20040045345-\$).did. or (US-6318342-\$ or US-6598591-\$ or US-5111699-\$ or US-4566316-\$ or US-6453732-\$ or US-5712424-\$ or US-5479817-\$ or US-4996873-\$ or US-4969352-\$ or US-4898024-\$ or US-4686861-\$ or US-4483181-\$ or US-4088015-\$ or US-3614488-\$ or US-3566163-\$ or US-3151258-\$ or US-5380014-\$ or US-5230238-\$ or US-5222399-\$ or US-3736394-\$ or US-6041656-\$ or US-4974454-\$ or US-4835436-\$ or US-4767960-\$ or US-4645965-\$ or US-4620438-\$). did. or (US-7107819-\$ or US-6134947-\$ or US-5323643-\$ or US-5313849-\$ or US-4602506-\$ or US-3505862-\$ or US-7117726-\$ or US-6752005-\$ or US-6406307-\$ or US-6106327-\$ or US-5823802-\$ or US-5747677-\$ or US-5672812-\$ or US-5367904-\$ or US-5329809-\$ or US-4524625-\$ or US-4491010-\$ or US-6834538-\$ or US-6799451-\$ or US-6675785-\$ or US-6668632-\$ or US-6119667-\$ or US-5315875-\$ or US-5101659-\$ or US-4909071-\$ or US-2879450-\$ or US-2068744-\$). did. or (US-5834629-\$ or US-5099683-\$ or US-4887574-\$ or US-4825689-\$ or US-4802369-\$ or US-4461170-\$ or US-4452072-\$ or US-4359893-\$ or US-4036050-\$ or US-3874225-\$ or US-3371525-\$ or US-5803419-\$ or US-5726351-\$ or US-6679100-\$ or US-5142914-\$ or US-4969353-\$ or US-4775816-\$). did. or (US-3505862-\$).did. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:53 |
| S26 | 27 | S25 and sleeve | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 17:53 |
| S27 | 22 | ("1580786" "2328289" "2342616" "2618963" "3029630").PN. OR ("3874225"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/12/31 18:03 |
| S28 | 0 | 73/119.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:09 |
| S29 | 746 | 73/119a.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:10 |

EAST Search History

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|-----|---------|---|---|----|-----|------------------|
| S30 | 886387 | inject\$3 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:10 |
| S31 | 648 | S29 and S30 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:12 |
| S32 | 1114496 | sleeve nozzle | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:12 |
| S33 | 334 | S31 and S32 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:15 |
| S34 | 173412 | pressure near5 (detect\$3 sens\$3) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:15 |
| S35 | 127 | S33 and S34 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:52 |
| S36 | 6 | ("4109518" "4130013").PN. OR ("4227403").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/01 11:22 |
| S37 | 1 | ("5712424").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/01/01 11:52 |
| S38 | 0 | ("bushingsleeve").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/01/01 12:51 |
| S39 | 1184559 | bushing sleeve | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 12:52 |
| S40 | 143556 | injector | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 12:52 |
| S41 | 2471488 | coat\$3 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 12:52 |
| S42 | 2628439 | protect\$3 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 12:53 |

EAST Search History

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|-----|---------|--|---|----|-----|------------------|
| S43 | 0 | S40 with S39 with S41 near5 S42 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 12:53 |
| S44 | 0 | S40 with S39 with S41 with S42 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 12:55 |
| S45 | 1054 | S39 with S41 near4 S42 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 12:55 |
| S46 | 14 | S40 and S39 with S41 with S42 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 13:07 |
| S47 | 5346834 | sens\$3 detect\$3 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 13:08 |
| S48 | 8 | (S47 with S39 with S40).clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 13:13 |
| S49 | 47 | (S47 with S39 with S40) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | 2007/01/01 13:13 |
| S50 | 1 | ("4566316").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/01/04 09:30 |
| S51 | 15 | ("3151258" "3566163" "3614488" "4088015" "4483181").PN. OR ("4566316"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 09:31 |
| S52 | 8 | ("4566316" "4686861").PN. OR ("4996873").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 09:42 |
| S53 | 14 | ("2773388" "3505862" "4566316" "4602506" "4686861").PN. OR ("4898024"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 09:44 |

EAST Search History

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|-----|--------|---|------------------------------|----|----|------------------|
| S54 | 76 | (US-20040045345-\$).did. or (US-4036050-\$ or US-4491010-\$ or US-4524625-\$ or US-5329809-\$ or US-5367904-\$ or US-5672812-\$ or US-5747677-\$ or US-5823802-\$ or US-6106327-\$ or US-6406307-\$ or US-6752005-\$ or US-7117726-\$ or US-3505862-\$ or US-5313849-\$ or US-5323643-\$ or US-6134947-\$ or US-7107819-\$ or US-6799451-\$ or US-4909071-\$ or US-6675785-\$ or US-5101659-\$ or US-3371525-\$ or US-5099683-\$ or US-6119667-\$ or US-5803419-\$ or US-4887574-\$). did. or (US-4825689-\$ or US-4461170-\$ or US-4452072-\$ or US-5834629-\$ or US-4969353-\$ or US-4775816-\$ or US-5142914-\$ or US-4802369-\$ or US-6668632-\$ or US-4109518-\$ or US-6679100-\$ or US-2068744-\$ or US-5726351-\$ or US-5315875-\$ or US-3874225-\$ or US-3736394-\$ or US-4620438-\$ or US-4645965-\$ or US-4767960-\$ or US-4835436-\$ or US-4974454-\$ or US-2879450-\$ or US-4969352-\$ or US-4996873-\$ or US-4566316-\$ or US-6318342-\$ or US-5111699-\$). did. or (US-6598591-\$ or US-6041656-\$ or US-5222399-\$ or US-5230238-\$ or US-5380014-\$ or US-6834538-\$ or US-4602506-\$ or US-4227403-\$ or US-3151258-\$ or US-3566163-\$ or US-3614488-\$ or US-4088015-\$ or US-4483181-\$ or US-4686861-\$ or US-4898024-\$ or US-5479817-\$ or US-5712424-\$ or US-4359893-\$ or US-6453732-\$ or US-5955826-\$ or US-5659132-\$). did. or (US-3505862-\$).did. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 09:47 |
| S55 | 135064 | inject\$3 with pressure | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 09:47 |
| S56 | 18 | S54 and S55 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 09:48 |
| S57 | 15 | ("3561831" "3603152" "3942049" "4146875" "4192179" "4214484" "4217781" "4391147" "4404854").PN. OR ("4775816").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 09:56 |

EAST Search History

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|-----|----|--|------------------------------|----|-----|------------------|
| S58 | 1 | ("5329809").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/01/04 09:56 |
| S59 | 21 | ("2068744" "4483181" "4570097" "4601196" "4602506" "4660409" "4964294" "4969352" "5142914" "5195365").PN. OR ("5329809"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 09:56 |
| S60 | 13 | ("4869095" "4966031" "5125263" "5150606" "5329809" "5398540" "5440933").PN. OR ("5739418").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 10:12 |
| S61 | 9 | S60 and inject\$3 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 10:12 |

EAST Search History

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|-----|--------|---|------------------------------|----|----|------------------|
| S62 | 88 | (US-20040045345-\$).did. or (US-6598591-\$ or US-5111699-\$ or US-6318342-\$ or US-4566316-\$ or US-5479817-\$ or US-6453732-\$ or US-5712424-\$ or US-4969352-\$ or US-4996873-\$ or US-4898024-\$ or US-4686861-\$ or US-3614488-\$ or US-4483181-\$ or US-4088015-\$ or US-3566163-\$ or US-5230238-\$ or US-3151258-\$ or US-5380014-\$ or US-5222399-\$ or US-3736394-\$ or US-6041656-\$ or US-4974454-\$ or US-4835436-\$ or US-4620438-\$ or US-4767960-\$ or US-4645965-\$). did. or (US-7107819-\$ or US-5323643-\$ or US-3505862-\$ or US-6134947-\$ or US-5313849-\$ or US-4602506-\$ or US-7117726-\$ or US-6752005-\$ or US-6406307-\$ or US-5747677-\$ or US-5672812-\$ or US-6106327-\$ or US-5329809-\$ or US-4524625-\$ or US-5823802-\$ or US-4491010-\$ or US-5367904-\$ or US-6834538-\$ or US-6799451-\$ or US-6679100-\$ or US-6675785-\$ or US-6668632-\$ or US-6119667-\$ or US-5315875-\$ or US-5142914-\$ or US-4909071-\$ or US-2879450-\$). did. or (US-5739418-\$ or US-5101659-\$ or US-5099683-\$ or US-4887574-\$ or US-4825689-\$ or US-4802369-\$ or US-4461170-\$ or US-2068744-\$ or US-4359893-\$ or US-4036050-\$ or US-5834629-\$ or US-3874225-\$ or US-3371525-\$ or US-5803419-\$ or US-4452072-\$ or US-5726351-\$ or US-4227403-\$ or US-4109518-\$ or US-6739182-\$ or US-6647760-\$ or US-6532795-\$ or US-6247351-\$ or US-6220078-\$ or US-5398540-\$ or US-4969353-\$ or US-4775816-\$ or US-5659132-\$). did. or (US-5440933-\$ or US-5125263-\$ or US-6866204-\$ or US-5955826-\$ or US-4966031-\$ or US-4869095-\$).did. or (US-3505862-\$).did. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 15:13 |
| S63 | 7 | friction and S62 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 15:47 |
| S64 | 862547 | sleeve bushing | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 15:48 |

EAST Search History

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|-----|---------|---|------------------------------|----|----|------------------|
| S65 | 5063704 | coat\$3 layer\$2 surface finish film | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 15:53 |
| S66 | 3397432 | reduce minimize diminish decrease | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 15:54 |
| S67 | 76308 | S66 near5 friction | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 15:54 |
| S68 | 856 | S64 with S65 with S67 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:01 |
| S69 | 53 | (S64 with S65 with S67).clm. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:12 |
| S70 | 148540 | "123"/\$.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:12 |
| S71 | 153132 | S70 and7 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:12 |
| S72 | 21 | S70 and S68 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:26 |
| S73 | 262848 | lubricat\$3 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:27 |
| S74 | 4166 | S64 with S65 with S73 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:29 |
| S75 | 217 | S74 and S70 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:35 |
| S76 | 51 | friction adj reducing adj surface adj coating | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 16:58 |
| S77 | 3 | S64 with S76 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 17:04 |
| S78 | 74105 | surface adj coating | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 17:05 |
| S79 | 18 | S64 adj S78 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/04 17:05 |

EAST Search History

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|-----|-------|--|------------------------------|----|----|------------------|
| S80 | 164 | 277/415.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 07:12 |
| S81 | 49562 | "277"/\$.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 07:13 |
| S82 | 196 | S81 and sleeve.ti. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 09:33 |
| S83 | 0 | 239/337.5.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 09:33 |
| S84 | 235 | 239/397.5.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 09:46 |
| S85 | 385 | 73/754.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 09:56 |
| S86 | 11058 | sleeve with (translation actuation) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 09:56 |
| S87 | 0 | S85 and S86 | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 09:56 |
| S88 | 696 | 123/470.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 09:57 |
| S89 | 15 | ("4245589" "4742964" "4877187" "5161379" "5384200" "5400969" "5941459" "5943994" "5967419" "5987882" "6009856" "6186419" "6196195" "6276338" "6427667").PN. OR ("7070126"). URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 10:14 |
| S90 | 50 | S88 and pressure adj (sens\$2 detect\$3) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 10:16 |
| S91 | 9 | S88 and (pressure adj (sens\$2 detect\$3)).clm. | US-PGPUB; USPAT; USOCR | OR | ON | 2007/01/05 10:16 |